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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/560,732

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Felipe Martinez

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The Dow Chemical Company
Intellectual Property Section
P.O. Box 1967
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EXAMINER

YAGER, JAMES C

ART UNIT

PAPER NUMBER

1794

MAIL DATE

DELIVERY MODE

07/31/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/560,732	Applicant(s) MARTINEZ, FELIPE	
	Examiner JAMES YAGER	Art Unit 1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 8, 9, 11-14, 17, 18 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8, 9, 11-14, 17, 18 and 20-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 24 June 2009 has been entered.

Response to Amendment

2. The amendment filed 24 June 2009 has been entered. Claims 1-6, 8, 9, 11-14, 17, 18 and 20-22 are currently pending in the application. In light of the amendments to the claims, the prior objection of record is withdrawn. The rejections of record from the office action dated 01 April 2009 not repeated herein have been withdrawn.

Claim Objections

3. Claim 11 objected to because of the following informalities: The unit nomenclature recited for density are both g/cc and gr/cc. For consistency, one or the other should be used, not both. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. While there is support for the sheet is made form a blend, there does not appear to be support to recite that the sheet “comprises” a blend, given that “comprises” appears to be broader than “is made of”.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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7. Claims 1-6, 8, 9, and 11-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, the phrase "density in the range of 0.900 to 0.930" renders the claim indefinite because units of density are not recited.

Regarding claim 1, the phrase "MI in the range of 2 and 6" renders the claim indefinite because it is unclear whether this means that the range is between 2 and 6 or that the MI is about 2 or about 6.

Regarding claim 11, the phrase "MI in the range of 0.2 and 6" renders the claim indefinite because it is unclear whether this means that the range is between 0.2 and 6 or that the MI is about 0.2 or about 6.

Regarding claim 14, the phrase "substantially no crosslinking" renders the claim indefinite because it is unclear how much crosslinking could be present to be considered substantially no crosslinking.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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9. Claims 1-6 and 11-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakamura et al. (US 4,649,001).

Regarding claims 1-6 and 11-14, Nakamura discloses an extruded foam sheet (i.e. a film consisting of one or more foamed polyolefin sheets) (C1/L30-35) comprising a blend of 10-40% by weight LLDPE and 60-90% by weight of LDPE (i.e. clearly overlapping wherein the sheet comprises a blend comprising 10-90 percent by weight LLDPE and 90-10 percent by weight LDPE) (C3/L24-30), wherein the LLDPE has a density of 0.920 to 0.940 g/cm.³ and an MFR of 0.3 to 10 g/10min (i.e. clearly overlapping wherein the LLDPE has a density in the range of 0.900 to 0.930 and an MI in the range of 2 and 6) (C2/L9-15) and wherein the LDPE has a density of 0.918 to 0.923 g/cm.³ and an MFR of 0.1 to 10 g/10min (i.e. clearly overlapping wherein the LDPE has a density in the range of 0.917 g/cc to 0.923 gr/cc and an MI in the range of 0.2 and 6) (C3/L10-15), wherein the foaming ratio is of 5 to 50 times (i.e. wherein the sheet has a density reduction of at least 20 percent compared to a non foamed sheet of the same composition) (C2/L60-65) and the thickness is of 0.1 to 5mm (3.94 to 197mils) (i.e. clearly overlapping wherein at least one polyolefin sheet is 3 to 8mils thick; wherein the sheet is about 3mils) (C2/L60-65).

In light of the use of the word “about” in claim 2, it is clear that the presently claimed thickness includes amounts slightly above and below 3mil. Therefore, the disclosure of 3.94mils in Nakamura meets the limitations of the claim.

Given that the foam sheet of Nakamura is made of the same materials in the same proportions and of the same thickness as the instantly claimed invention, it is

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clear that the foamed layer will possess identical properties i.e. having an MD tear strength of at least 150 gr/mil; the MD tear strength is greater than 350 gr/mil; the oxygen vapor transmission is 2.18 gr.mil/100 in.sq*24 hr; the oxygen vapor transmission is 270 cc.mil/100 in.sq*24 hr.

Given that Nakamura does not disclose that the foamed layer is crosslinked, it is the examiner's position that the polyolefin has substantially no crosslinking.

Although Nakamura does not disclose that the foam layer has been made using a land length to die gap ratio of less than 25, or has been made using a blow up ratio of from about 2.2 to about 4.0 as claimed, it is noted that “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process”, *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) . Further, “although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product”, *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983). See MPEP 2113.

Therefore, absent evidence of criticality regarding the presently claimed the foamed layer has been made using a land length to die gap ratio of less than 25, or has been made using a blow up ratio of from about 2.2 to about 4.0 and given that

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Nakamura meets the requirements of the claimed sheet, Nakamura clearly meets the requirements of present claims 12 and 13.

10. Claims 17, 18 and 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Kelch (US 5,000,992), as evidenced by Chen et al. (US 5,286,525) and Esneault et al. (WO 96/16122).

Regarding claims 17, 18 and 20-22, Kelch discloses a multilayer film 3-10mils thick (C2/L45-50) consisting essentially of a foamed layer comprising 10-90% LLDPE and 10-90% LDPE (i.e. a foamed polyolefin sheet; clearly overlapping wherein the blend contains about 70 percent LLDPE) (C3/L30-40) that comprises 60-90% of the film thickness (i.e. 1.8-9 mils thick) (C3/L45-55), wherein the LLDPE is LLDPE 4047 (C10/L20-30) having a density of 0.917 g/cc and a MI of 2.3 g/10 min (as evidenced by Chen et al. C4/L40-45) and the LDPE is LDPE 681 (C10/L20-30) having a density of 0.922 g/cc and a MI of 5.52 g/10 min (as evidenced by Esneault et al. P11/L15-20).

Given that the foamed layer of Kelch is made of the same materials in the same proportions and of the same thickness as the instantly claimed invention, it is clear that the foamed layer will possess identical properties i.e. having an MD tear strength of at least 50 gr/mil; the layer has a density reduction of at least 20 percent compared to a non foamed layer of the same composition.

Given that Kelch does not disclose that the foamed layer is crosslinked, it is the examiner's position that the polyolefin has substantially no crosslinking.

Although Kelch does not disclose that the foam layer has been made using a land length to die gap ratio of less than 25, or has been made using a blow up ratio of

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from about 2.2 to about 4.0 as claimed, it is noted that “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process”, *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) . Further, “although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product”, *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983). See MPEP 2113.

Therefore, absent evidence of criticality regarding the presently claimed the foamed layer has been made using a land length to die gap ratio of less than 25, or has been made using a blow up ratio of from about 2.2 to about 4.0 and given that Kelch meets the requirements of the claimed sheet, Kelch clearly meets the requirements of present claims 21 and 22.

While it is recognized that the phrase “consisting essentially of” narrows the scope of the claims to the specified materials and those which do not materially affect the basic and novel characteristics of the claimed invention, absent a clear indication of what the basic and novel characteristics are, “consisting essentially of” is construed as equivalent to “comprising”. Further, the burden is on the applicant to show that the additional ingredients in the prior art, i.e. a non-foamed layer, would in fact be excluded

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from the claims and that such ingredients would materially change the characteristics of the applicant's invention, See MPEP 2111.03.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

13. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (US 4,649,001).

Regarding claim 2, Nakamura discloses all of the claim limitations as set forth above, Nakamura does not specifically disclose that the sheet is about 3mils thick. Nakamura does disclose that the sheet is 0.1 to 5mm thick (3.94 to 197mils).

It is apparent, however, that the instantly claimed thickness and that taught by Nakamura are so close to each other that the fact pattern is similar to the one in In re

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Woodruff , 919 F.2d 1575, USPQ2d 1934 (Fed. Cir. 1990) or Titanium Metals Corp. of America v. Banner, 778 F.2d 775, 227 USPQ 773 (Fed.Cir. 1985) where despite a “slight” difference in the ranges the court held that such a difference did not “render the claims patentable” or, alternatively, that “a prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough so that one skilled in the art would have expected them to have the same properties”.

In light of the case law cited above and given that there is only a “slight” difference between the thickness disclosed by Nakamura and the thickness disclosed in the present claims and further given the fact that no criticality is disclosed in the present invention with respect to the thickness, it therefore would have been obvious to one of ordinary skill in the art that the thickness disclosed in the present claims is but an obvious variant of the thickness disclosed in Nakamura, and thereby one of ordinary skill in the art would have arrived at the claimed invention.

14. Claims 17, 18, 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (US 4,649,001).

Regarding claims 17, 18, 21 and 22, Nakamura discloses an extruded foam sheet (i.e. a film consisting essentially of one or more foamed polyolefin sheets) (C1/L30-35) comprising a blend of 10-40% by weight LLDPE and 60-90% by weight of LDPE (i.e. clearly overlapping wherein the sheet comprises a blend comprising 10-90 percent by weight LLDPE and 90-10 percent by weight LDPE) (C3/L24-30), wherein the LLDPE has a density of 0.920 to 0.940 g/cm.^{sup.3} and an MFR of 0.3 to 10 g/10min (i.e. clearly overlapping wherein the LLDPE has a density in the range of 0.900 to 0.930

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and an MI in the range of 2 and 6) (C2/L9-15), wherein the foaming ratio is of 5 to 50 times (i.e. wherein the sheet has a density reduction of at least 20 percent compared to a non foamed sheet of the same composition) (C2/L60-65) and the thickness is of 0.1 to 5mm (3.94 to 197mils) (C2/L60-65).

Given that the foam sheet of Nakamura is made of the same materials in the same proportions and of the same thickness as the instantly claimed invention, it is clear that the foamed layer will possess identical properties i.e. having an MD tear strength of at least 50 gr/mil.

Given that Nakamura does not disclose that the foamed layer is crosslinked, it is the examiner's position that the polyolefin has substantially no crosslinking.

Although Nakamura does not disclose that the sheet is less than 3 mils thick, since the instant specification is silent to unexpected results, the specific thickness of the sheet is not considered to confer patentability to the claims. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make the sheet of Nakamura less than 3mils thick in order to reduce the cost of manufacturing the sheet and depending on the intended use of the sheet.

Although Nakamura does not disclose that the foam layer has been made using a land length to die gap ratio of less than 25, or has been made using a blow up ratio of from about 2.2 to about 4.0 as claimed, it is noted that "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the

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same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process”, *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) . Further, “although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product”, *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983). See MPEP 2113.

Therefore, absent evidence of criticality regarding the presently claimed the foamed layer has been made using a land length to die gap ratio of less than 25, or has been made using a blow up ratio of from about 2.2 to about 4.0 and given that Nakamura meets the requirements of the claimed sheet, Nakamura clearly meets the requirements of present claims 21 and 22.

15. Claims 1-6, 8, 9, 11-14, 17, 18 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeVaudreuil et al. (US 6,114,025).

Regarding claims 1-6, 8, 9, 11-14, 17, 18 and 20-22, DeVaudreuil discloses a foam sheet comprising 1 to about 90 weight percent of LLDPE and 10 to 99 weight percent of LDPE (i.e. a film consisting of one or more foamed polyolefin sheet; clearly overlapping wherein the sheet comprises a blend comprising 10-90 percent by weight LLDPE and 90-10 percent LDPE; clearly overlapping wherein the blend comprises from 50 percent to 90 percent by weight of LLDPE; clearly overlapping wherein the blend contains about 70 percent LLDPE) (C2/L60-65), wherein the LLDPE has a specific gravity of about 910 to about 940 kg/m.^{sup.3} and an MI of less than about 10 dg/min (i.e. clearly overlapping wherein the LLDPE has a density in the arrange of 0.900 to

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0.930 and an MI in the range of 2 and 6) (C3/L60-65, C4/L10-13), wherein the LDPE has a specific gravity of from about 915 to about 925kg/m.sup.3 and an MFI of from about 0.2 to about 3.8 dg/min (i.e. wherein the LDPE has a density in the range of 0.917 g/cc to 0.923 gr/cc and an MI in the range of 0.2 and 6) (C4/L50-55), wherein the thickness is less than about 13mm (i.e. clearly overlapping wherein the sheet is 3 to 8mils thick; clearly overlapping wherein the sheet is about 3 mils thick; clearly overlapping wherein the sheet is less than 3 mils thick) (C7/L4-8).

Given that the foamed layer of DeVaudreuil is made of the same materials in the same proportions and of the same thickness as the instantly claimed invention, it is clear that the foamed layer will possess identical properties i.e. having an MD tear strength of at least 150 gr/mil; the MD tear strength is greater than 350 gr/mil; the oxygen vapor transmission is 2.18 gr/mil/100 in.sq*24 hr; the oxygen vapor transmission is 270 cc.mil/100 in.sq*24 hr; the layer has a density reduction of at least 20 percent compared to a non foamed layer of the same composition; having an MD tear strength of at least 50gr/mil.

Given that DeVaudreuil does not disclose that the foamed layer is crosslinked, it is the examiner's position that the polyolefin has substantially no crosslinking.

Although DeVaudreuil does not disclose that the foam layer has been made using a land length to die gap ratio of less than 25, or has been made using a blow up ratio of from about 2.2 to about 4.0 as claimed, it is noted that "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not

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depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process”, *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) . Further, “although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product”, *In re Marosi*, 710 F.2d 798, 802, 218 USPQ 289, 292 (Fed. Cir.1983). See MPEP 2113.

Therefore, absent evidence of criticality regarding the presently claimed the foamed layer has been made using a land length to die gap ratio of less than 25, or has been made using a blow up ratio of from about 2.2 to about 4.0 and given that DeVaudreuil meets the requirements of the claimed sheet, DeVaudreuil clearly meets the requirements of present claims 12, 13, 21 and 22.

While DeVaudreuil fails to exemplify the presently claimed thickness of the sheet nor can the claimed thickness be “clearly envisaged” from DeVaudreuil as required to meet the standard of anticipation (cf. MPEP 2131.03), nevertheless, in light of the overlap between the claimed thickness and the thickness disclosed by DeVaudreuil, absent a showing of criticality for the presently claimed thickness, it is urged that it would have been within the bounds of routine experimentation, as well as the skill level of one of ordinary skill in the art, to use 3 to 8mils thick; 3 mils thick; or less than 3 mils thick which is both disclosed by DeVaudreuil and encompassed within the scope of the present claims and thereby arrive at the claimed invention.

As set forth in MPEP 2144.05, in the case where the claimed range “overlap or lie inside ranges disclosed by the prior art”, a *prima facie* case of obviousness exists, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

16. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kelch (US 5,000,992), as evidenced by Chen et al. (US 5,286,525) and Esneault et al. (WO 96/16122), as applied to claims 1 and 17 above, in further view of Hughes et al. (US 3,963,403).

Regarding claim 21, modified Kelch discloses all of the claim limitations as set forth above. Kelch does not specifically disclose that the foam layer is made using a land length to die gap ratio of less than 25.

Hughes discloses a pipe made from foam plastic (C1/L13-15) that is made using a low land length to die gap ratio, optimally 2:1 (C2/L45-55). Hughes discloses that the low land length to die gap ratio prevents foaming upstream of the outlet and provides a stronger and leak resistant wall (C1/L48-51).

Kelch and Hughes are analogous art because they both teach about articles made of foamed plastic. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the land length to die gap ratio of 2 as disclosed by Hughes in the process of making the film of Kelch to provide a film that is stronger and leak resistant.

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17. Claims 12 and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (US 4,649,001), as applied to claims 1 and 17 above, in further view of Hughes et al. (US 3,963,403).

Regarding claims 12 and 21, Nakamura discloses all of the claim limitations as set forth above. Nakamura does not specifically disclose that the foam layer is made using a land length to die gap ratio of less than 25.

Hughes discloses a pipe made from foam plastic (C1/L13-15) that is made using a low land length to die gap ratio, optimally 2:1 (C2/L45-55). Hughes discloses that the low land length to die gap ratio prevents foaming upstream of the outlet and provides a stronger and leak resistant wall (C1/L48-51).

Nakamura and Hughes are analogous art because they both teach about articles made of foamed plastic. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the land length to die gap ratio of 2 as disclosed by Hughes in the process of making the sheet of Nakamura to provide a sheet that is stronger and leak resistant.

18. Claims 12 and 21 rejected under 35 U.S.C. 103(a) as being unpatentable over DeVaudreuil et al. (US 6,114,025), as applied to claims 1 and 17 above, in further view of Hughes et al. (US 3,963,403).

Regarding claims 12 and 21, DeVaudreuil discloses all of the claim limitations as set forth above. Nakamura does not specifically disclose that the foam layer is made using a land length to die gap ratio of less than 25.

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Hughes discloses a pipe made from foam plastic (C1/L13-15) that is made using a low land length to die gap ratio, optimally 2:1 (C2/L45-55). Hughes discloses that the low land length to die gap ratio prevents foaming upstream of the outlet and provides a stronger and leak resistant wall (C1/L48-51).

DeVaudreuil and Hughes are analogous art because they both teach about articles made of foamed plastic. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the land length to die gap ratio of 2 as disclosed by Hughes in the process of making the sheet of DeVaudreuil to provide a sheet that is stronger and leak resistant.

Response to Arguments

19. Applicant's arguments with respect to claims 1-6, 8, 9 and 11-14 have been considered but are moot in view of the new ground(s) of rejection.

20. Applicant's arguments filed 24 June 2009 have been fully considered but they are not persuasive.

Applicant argues that claims 17, 18 and 20-22 have been amended to recite "consisting of" rather than "consisting essentially of".

Contrary to applicant's assertion, claims 17, 18 and 20-22 continue to recite "consisting essentially of".

While it is recognized that the phrase "consisting essentially of" narrows the scope of the claims to the specified materials and those which do not materially affect

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the basic and novel characteristics of the claimed invention, absent a clear indication of what the basic and novel characteristics are, "consisting essentially of" is construed as equivalent to "comprising". Further, the burden is on the applicant to show that the additional ingredients in the prior art, i.e. a non-foamed layer, would in fact be excluded from the claims and that such ingredients would materially change the characteristics of the applicant's invention, See MPEP 2111.03.

Conclusion

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES YAGER whose telephone number is (571)270-3880. The examiner can normally be reached on Mon - Fri, 7:30am-5pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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JY 7/27/09

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